

REMARKS

Status of the Claims

Claims 1-20 are pending as shown above. Claims 10-20 have been withdrawn from consideration pursuant to a restriction requirement that has been made final. Claim 1 has been reformatted and amended as shown above. Support of the amendment to claim 1 can be found throughout the specification as filed, for example on page 73, line 30 through page 74, line 11, particularly page 74, line 1. Thus, claims 1-9 as listed above are under examination.

Information Disclosure Statement

Applicants note that the copies of the references submitted with the IDS have not been received. For the Examiner's convenience, duplicate copies of the non-patent references are submitted herewith. Further, since the references were received by the Patent Office (as indicated by the stamped postcard), Applicants request that the Examiner initial the duplicate 1449s submitted herewith.

Restriction Requirement

The Restriction Requirement has been made final. Applicants again expressly reserve their right under 35 USC §121 to file one or more divisional applications directed to any nonelected subject matter during the pendency of this application. In addition, Applicants reserve their right, pursuant to 37 C.F.R. §§ 1.144 and 1.181, to petition this requirement at any time during the pendency of this application, prior to appeal.

With regard to the Election of Species requirement, Applicants note with appreciation that the requirement for election of "desired level of expression of the reporter gene" has been withdrawn.

In addition, the Examiner asserts that Applicants' were not fully responsive and that there were no "explicit examples for the generic category of 'an activation domain' in either the 'Summary of the Invention' or 'Detailed Description of the Invention' of Applicants' disclosure." (Office Action, pages 3-4). Applicants respectfully traverse this election requirement. As noted below, the claimed methods involve the use of two copies of the same fusion protein. Each fusion protein includes the same test peptide, the same DNA-binding domain, and the same activation domain. It is clear that a search for any references directed to methods of selecting dimerizing peptides using a fusion protein comprising a DNA-binding domain and a test peptide would necessarily and in all cases reveal references relevant to methods in which the protein further includes **any** activation domain. Thus, this election of species requirement is improper and should be withdrawn.

35 U.S.C. § 102(b)

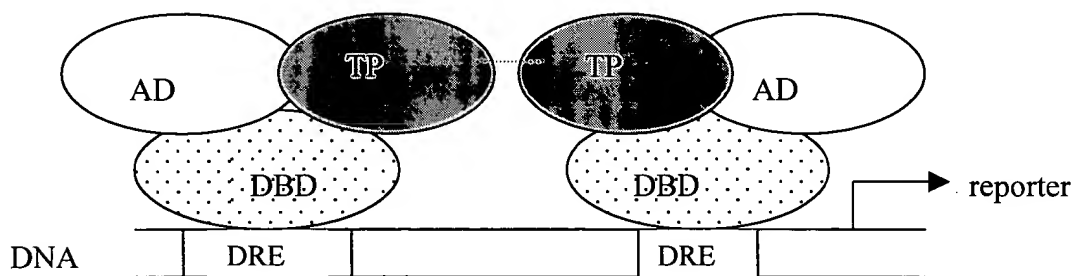
Claims 1-4 and 6-9 were rejected under 35 U.S.C. § 102(b) as allegedly anticipated by U.S. Patent No. 5,580,736 (hereinafter "Brent et al."). It is alleged that Brent teaches a method of selecting a dimerizing test polypeptide using the methods set forth in claims 1-4 and 6-9. (Office Action, pages 5-6).

Applicants traverse the rejection and supporting remarks.

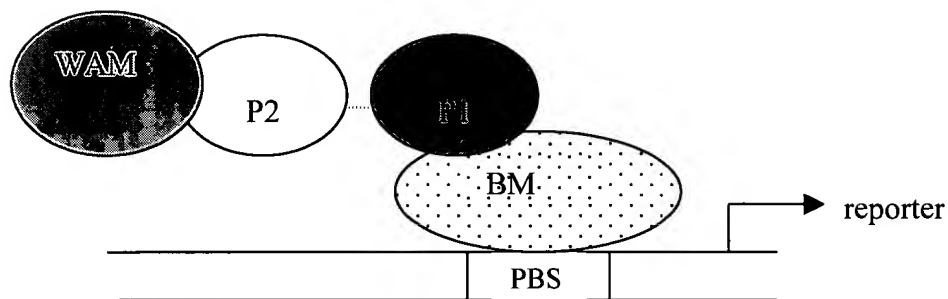
Claims 1-9 are directed to methods of selecting a dimerizing test peptide. In other words, the methods of the pending claims select a single protein that interacts with an identical copy of itself. In contrast, Brent does not disclose or suggest methods of selecting dimerizing peptides but, instead, relates entirely to a two-hybrid system for evaluating interactions between different proteins. *See, e.g.*, Abstract of Brent.

The differences between the claimed subject matter and Brent are perhaps best illustrated schematically, as shown below. The claimed methods involve dimerization of two copies of the same fusion protein. Thus, each copy of the protein includes the same test polypeptide (TP); the same activation domain (AD), the same DNA binding domain (DBD) and each protein binds to a DBD recognition element (DRE). The fact that the present invention selects peptides capable of homodimerization is shown below, where the dashed line indicates non-covalent interaction between the two identical test polypeptides.

Methods of Claims 1-9:



By contrast, Brent assays interaction between different proteins in a conventional two-hybrid-type system. In particular, Brent teaches that a fusion protein comprising a binding moiety (BM) and a first protein (P1) is evaluated for its ability to interact with a **different** second protein (P2), which is covalently bonded to a weak gene activation moiety (WAM). Simply put, Brent relates entirely to heterodimerization (where P2 and P1 are different) and to systems in which only one of the interacting fusion proteins binds to a protein binding site (PBS) in DNA.



Thus, Brent fails to teach or suggest the methods as claimed, and, accordingly, cannot anticipate the pending claims. Therefore, Applicants request withdrawal of the rejection under 35 U.S.C. § 102(b).

35 U.S.C. § 103

Claims 1-9 were also rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Brent in view of Kornacker et al. (1998) *Mol. Micro* 30(3):615-624 (hereinafter "Kornacker"). (Office Action pages 8-9). Brent is cited as above and Kornacker is alleged to teach a method of selecting a dimerizing test polypeptide in prokaryotic cells. *Id.* It is maintained that it would have been obvious to combine Brent's methods, which are alleged to teach all the elements except use of *E. coli*, with Kornacker to arrive at the claimed subject matter. *Id.*

For the reasons noted above, Brent fails entirely to teach or suggest methods of selecting test peptides for their homodimerization capabilities. Kornacker fails to supply what is missing from Brent.

Thus, there is no combination of these references that can render obvious methods as set forth in claims 1-9. Accordingly, withdrawal of this rejection is requested.

CONCLUSION

In view of the foregoing remarks, Applicants submit that all pending claims are in condition for allowance and request early notification to that effect. Should the Examiner have any further questions, he is invited to contact the undersigned.

Respectfully submitted,

Date: February 3, 2004

By: _____



Dahna S. Pasternak
Attorney for Applicant
Registration No. 41,411

ROBINS & PASTERNAK LLP
1731 Embarcadero Road, Suite 230
Palo Alto, CA 94303
Tel.: (650) 493-3400
Fax: (650) 493-3440